Chemical and Petroleum Engineering 2008 vol.44 N7-8, pages 387-392

A gas compressor based on a piston-type acoustic resonator

Ermakov R., Galiullin R., Larionov V., Nikolaev A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Major differences are pointed out between the design and working principles of a piston acoustic gas compressor and piston-based pumps and compressors. Working forms are given for the amplitude of the gas speed oscillation in the tube and the compressor throughput. The throughput is calculated for a tube of length 3.5 m with internal diameter 0.04 m and piston stroke length of 0.004 m. It exceeds that of a normal piston compressor with the same energy consumption by a factor of 8. © 2008 Springer Science+Business Media, Inc.

http://dx.doi.org/10.1007/s10556-008-9069-8